

REDUCING ELECTROMAGNETIC FEEDBACK DURING LASER SHOCK  
PEENING

## ABSTRACT

A laser shock peening apparatus includes a laser unit for generating at least one laser beam aimed at a laser shock peening area and an anti-feedback means for preventing electromagnetic radiation reflections from the target area from entering the laser unit during laser shock peening and the anti-feedback means is located between the laser unit and a final focusing lens. The anti-feedback means may include an optical isolator at an output of the laser unit such as a faraday isolator. Alternative optical isolators may include thin film polarizers, glan prism polarizers, independent pig tailed optical isolators, mirrors with enhanced P or S polarization coatings. The laser unit may include an oscillator and a final amplifier and the output of the laser unit located after the final amplifier.